Biological Resource Assessment of
APN 3153-011-36 and 43
Lancaster, California

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Abstract

Development has been proposed for APN 3153-011-36 and 43, Lancaster, California. The approximately 20 acre (8 ha) study area was located east of 40th Street West and north of Avenue J, T7N, R12W, the W1/2 of the SW1/4 of the SW1/4 of Section 18, SBBM. Transect surveys were conducted on 21 January and 29 July 2019 to inventory biological resources. The proposed project area was characteristic of a heavily impacted saltbush (*Atriplex* spp.) scrub habitat. Thirty-nine plant species and twenty-three wildlife species or their sign were observed during the transect surveys. No desert tortoises (*Gopherus agassizii*) or their sign were observed during the field survey. The proposed project site was not located within the geographic range of the Mohave ground squirrel (*Xerospermophilus mohavensis*). No Mohave ground squirrels (*Xerospermophilus mohavensis*) were observed or audibly detected during the field survey. The habitat within the study area did not appear suitable to support Mohave ground squirrels. No desert kit fox (*Vulpes macrotis*) or their sign were observed within the study site. No American badgers (*Taxidea taxus*) or their sign were observed within the study site. No burrowing owls (*Athene cunicularia*) or their sign were observed during the field surveys. California ground squirrel (*Citellus beecheyi*) burrows were observed within the study site. California ground squirrel burrows provide potential cover sites for burrowing owls. An alkali mariposa lily (*Calochortus striatus*) was observed within the west half of the study site. Potential alkali mariposa lily habitat occurs within the western portion of the study site. No other sensitive plants, specifically, desert cymopterus (*Cymopterus deserticola*) or Barstow woolly sunflower (*Eriophyllum mohanense*) were observed within the study area or are expected to be present. Prairie falcons (*Falco mexicanus*) and other raptors may forage over the site but no roosting or nesting sites are present. Vegetation within the study area provides potential nesting sites for other migratory birds. No other state or federally listed species are expected to occur within the proposed project area. No blue line streams were observed on the topographic map. Two storm run-off channels from the residential area present to the east of the study site were observed during the field survey. One of the storm run-off channels had developed a small area of ponding that appears to periodically hold water. Clay pans were observed within the western side of the study site.

Recommended Protection Measures:

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) prior to development activities. Discussions with CDFW should be accomplished to determine whether a Streambed Alteration Agreement is required for the water features within the site. Mitigation for alkali mariposa lily, if required, may be combined with measures that may be required for water features in the area.

Consistent with the "Staff Report on Burrowing Owl Mitigation" a pre-construction burrowing owl survey will be accomplished within 14 days of construction activities (CDFG 2012). This survey will determine the level of protection measures needed during construction activities. Mitigation methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the nesting season for migratory birds. Nesting generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all areas to be disturbed as close as possible but no more than one week prior to removal. If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet (16 m) around active migratory bird species nests and a minimum of 500 feet (161 m) around raptor nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Significance: Based on the condition of the habitat, and results of the survey, this project is not expected to result in a significant adverse impact to biological resources.

Development has been proposed for APN 3153-011-36 and 43, Lancaster, California (Figure 1). Development would include installation of access roads, parking and utilities (water, sewer, electric, etc.). The entire project area would be graded prior to construction activities.

An environmental analysis should be conducted prior to any development project. An assessment of biological resources is an integral part of environmental analyses (Gilbert and Dodds 1987). The purpose of this study was to provide an assessment of biological resources potentially occurring within, or utilizing the proposed project area. Specific focus was on the presence/absence of rare, threatened and endangered species of plants and wildlife. Species of concern included the desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), desert kit fox (*Vulpes macrotis*), American badger (*Taxidea taxus*), burrowing owl (*Athene cunicularia*), prairie falcon (*Falco mexicanus*), desert cymopterus (*Cymopterus deserticola*), Barstow woolly sunflower (*Eriophyllum mohanense*), and alkali mariposa lily (*Calochortus striatus*).

Study Area

The approximately 20 acre (8 ha) study area was located east of 40th Street West and north of Avenue J, T7N, R12W, the W1/2 of the SW1/4 of the SW1/4 of Section 18, SBBM. (Figures 2 and 3). The western boundary was formed by 40th Street West. Highly disturbed saltbush (*Atriplex* spp.) scrub habitat was present west of 40th Street West. A fire department complex and Newgrove Street formed the northern boundary of the study site. Saltbush scrub habitat existed north of Newgrove Street. Single-family homes existed to the east of the study site. Avenue J formed the southern boundary of the study site. Single-family homes existed to the south of Avenue J.

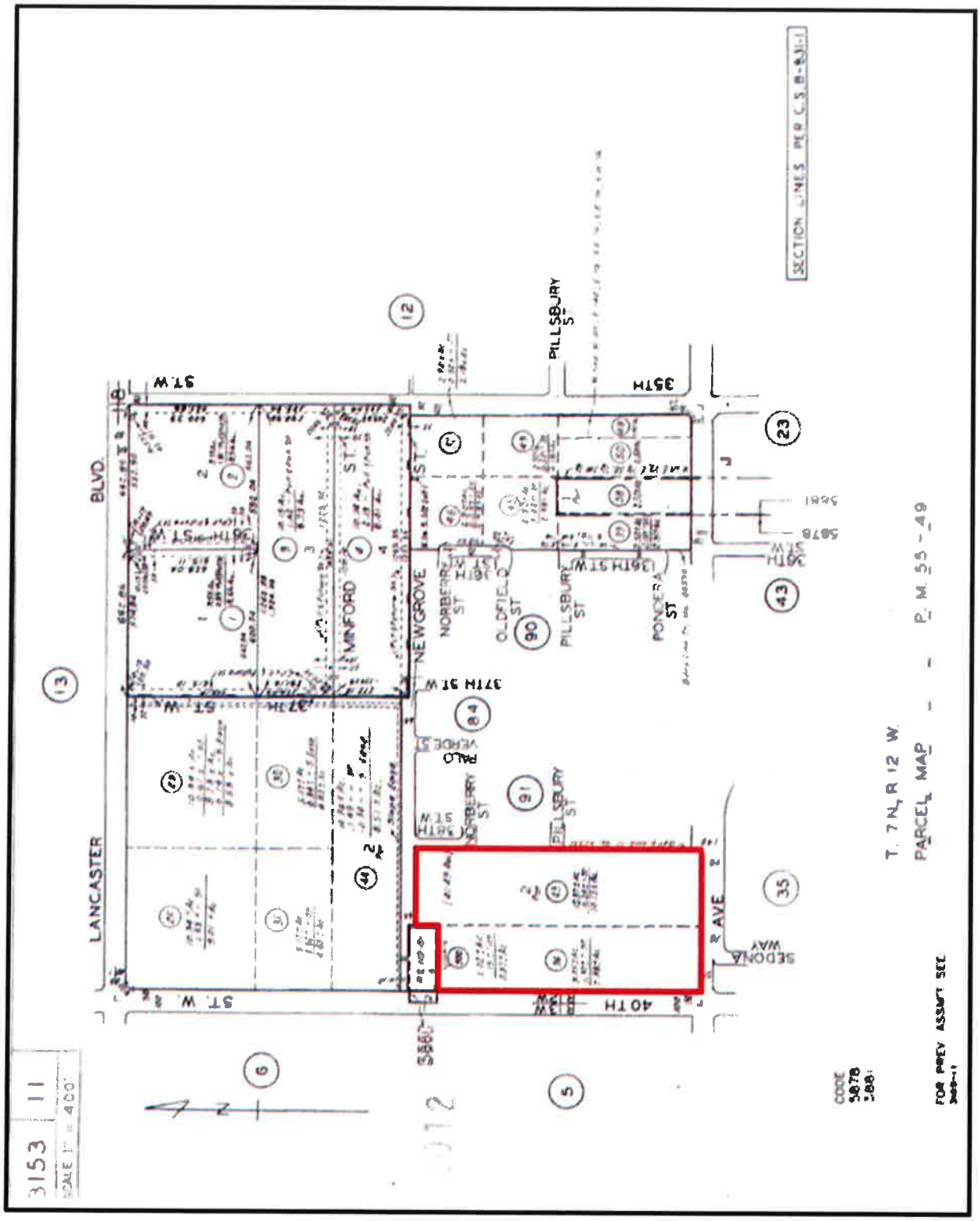

Figure 1. Approximate location of proposed project area as depicted on APN map.

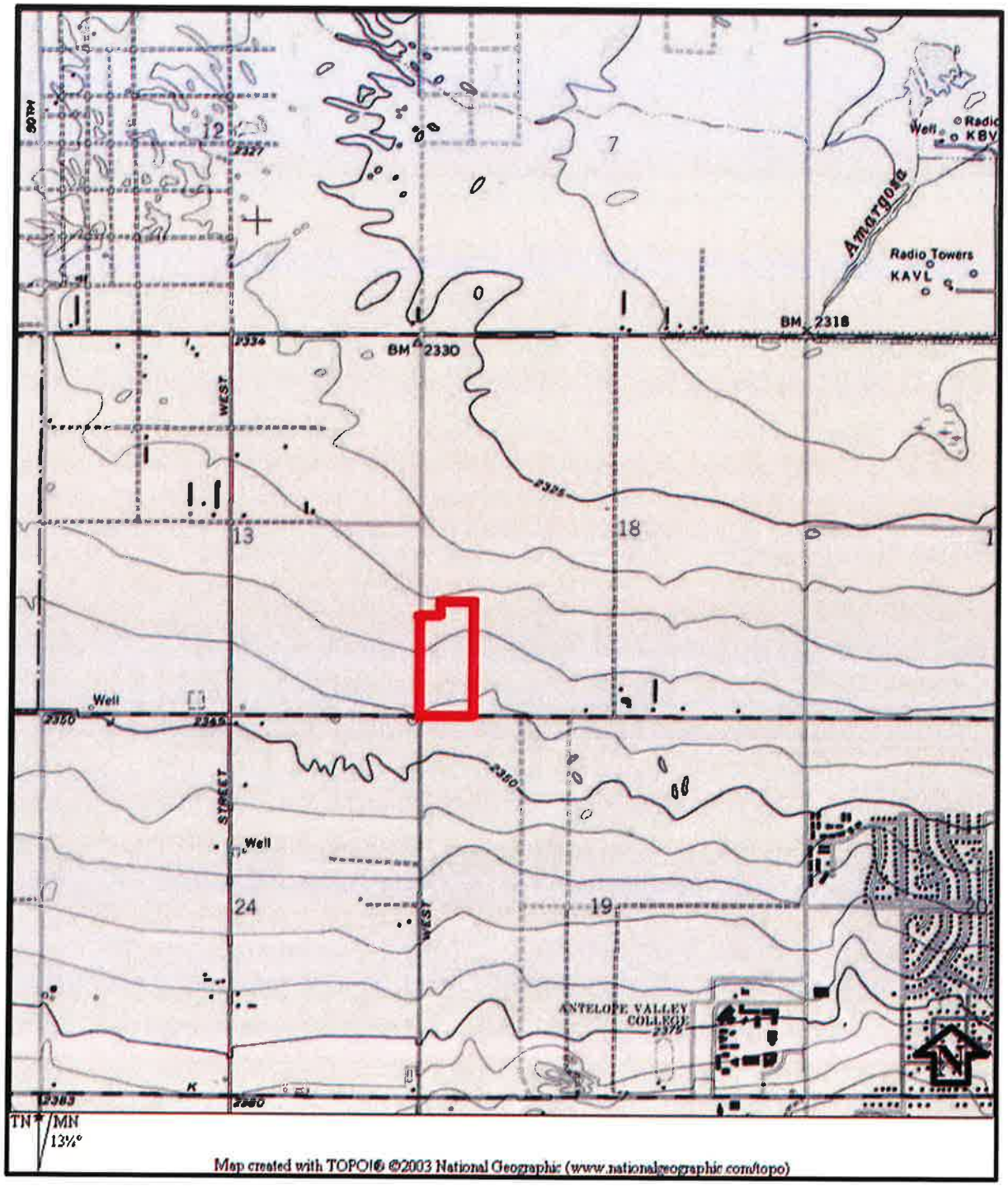

Figure 2. Approximate location of study area as depicted on excerpt from USGS Quadrangle, Sanborn, Calif., 7.5' 1973.

Figure 3. Aerial photograph showing surrounding land use (Los Angeles County Tax Assessor site), accessed July 2019.

Methods

Line transect surveys were conducted to determine habitat suitability for sensitive species and inventory plant and wildlife species occurring within the proposed project area (Cooperrider et al. 1986, Davis 1990). The USFWS (2010) has provided recommendations for survey methodology to determine presence/absence of desert tortoises. Line transects were walked in a north-south orientation. Line transects ranged from approximately 1,165 to 1,275 feet (379 to 411 m) long and spaced about 50 feet (16 m) apart within the study area based on terrain and disturbance level (U.S. Fish & Wildlife Service 2010). The California Department of Fish and Game (2012) prepared recommendations for burrowing owl survey methodology. Consistent with the survey protocol the entire site was surveyed and adjacent areas were evaluated (CDFG 2012). A habitat assessment was conducted for Mohave ground squirrels to determine shrub species diversity, cover, and forage potential on the study site.

All observations of plant and animal species were recorded in field notes. Field guides were used to aid in the identification of plant and animal species (Arnett and Jacques 1981, Borror and White 1970, Burt and Grossenheider 1976, Gould 1981, Jaeger 1969, Knobel 1980, Robbins et al. 1983, Stark 2000). Observations were aided with the use of 10x50, and 10x42 binoculars. Observations of animal tracks, scat, and burrows were also utilized to determine the presence of wildlife species inhabiting the proposed project area (Cooperrider et al. 1986, Halfpenny 1986, Lowrey 2006, Murie 1974). Aerial photographs, a previous survey (Brandman 2005), and the USGS topographic map were reviewed. Photographs of the study site were taken (Figure 4).

Results

Two random transects were walked within the site on 21 January 2019 and a total of 10 line transects were walked within the study site on 29 July 2019. Weather conditions on 21 January 2019 consisted of cool temperatures (estimated 45 degrees F). Weather conditions on 29 July 2019 consisted of warm temperatures (estimated 70 degrees F), 5% cloud cover, and no wind. The USGS topographic map did not indicate the presence of any blue line streams within the study area. Two stormwater/irrigation channels were present due to runoff from the housing development east of the study site. One of the channels had developed an ephemeral ponded area with a dominant plant species consisting of white sweet clover (*Melilotus alba*) and a few small trees (Figure 5, Table 1). Clay pans were present within the western portion of the study site.

The proposed project area was characteristic of a heavily impacted saltbush scrub habitat (Barbour and Major 1988, Barbour et. al. 2007). Thirty-nine plant species were observed during the line transect survey (Table 1). The dominant shrub species throughout the study area was shadscale (*Atriplex confertifolia*). Red stem filaree (*Erodium cicutarium*), and invasive grasses (*Schismus* sp., bromus spp.) were the dominant annual species. No Barstow woolly sunflowers or desert cymopterus and/or suitable habitat for these species were observed within the study site. An alkali mariposa lily seed pod was observed within the western portion of the study site.

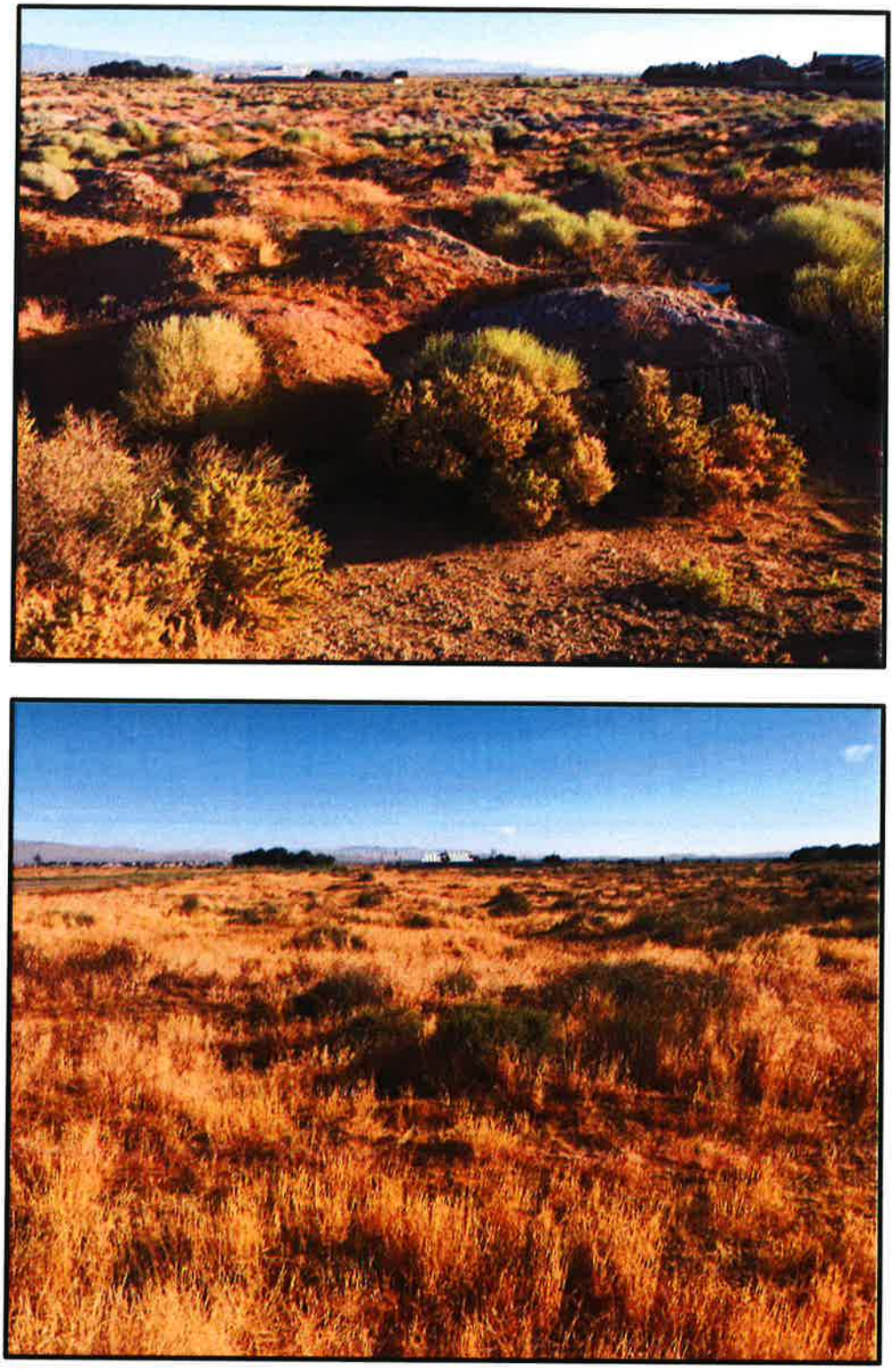

Figure 4. Representative photographs of the study site. The top is of the eastern half of the study site dominated by spoil piles. The bottom is of the western half of the study site.

Figure 5. Aerial photograph showing disturbance of east half of study site and approximate location of storm water runoff and ponding (outlined in blue) taken in 2016, Google Earth.

Table 1. List of plant species that were observed during the line transect survey of APN 3153-011-36 and 43, Lancaster, California.

Common Name	Scientific Name
Joshua tree	*Yucca brevifolia*
Salt cedar	*Tamarix* sp.
Willow	*Salix* sp.
Great basin sagebrush	*Artemisia tridentata*
Shadscale	*Atriplex confertifolia*
Rabbit brush	*Chrysothamnus nauseosis*
Cheesebush	*Hymenoclea salsola*
Silverscale	*Atriplex argentea*
Arrow scale	*Atriplex phyllostegia*
Matchweed	*Gutierrezia lucida*
Chinese pusley	*Heliotropium curassavicum*
Mormon tea	*Ephedra nevadensis*
Jimson weed	*Datura meteloides*
Pineapple weed	*Matricaria discoidea*
Vinegar weed	*Trichostema lanceolatum*
Flattop buckwheat	*Eriogonum deflexum*
Desert velvet	*Psathyrotes ramosissima*
Yellow pepper grass	*Lepidium flavum*
Alkali mariposa lily	*Calochortus striatus*
Desert pink	*Stephanomeria exigua*
Davy gilia	*Gilia latiflora davyi*
Salt grass	*Distichlis spicata*
Fiddleneck	*Amsinckia tesselata*
Red-stem filaree	*Erodium cicutarium*
White sweet clover	*Melilotus alba*
Black-eyed susan	*Rudbeckia hirta*
Desert milkweed	*Asclepias erosa*
Bull thistle	*Circium vulgare*
Tumble mustard	*Sisymbrium altisissiimum*
Annual burweed	*Franseria acanthicarpa*
Five-hook bassia	*Bassia hyssopifolia*
Horseweed	*Canyza honariensis*
Russian thistle	*Salsola iberica*
Prickly lettuce	*Lactuca seriola*
Mustard sp.	Brassicaceae
Foxtail barley	*Hordeum murinum*
Cheat grass	*Bromus tectorum*
Schismus	*Schismus* sp.
Red brome	*Bromus rubens*

Twenty-three wildlife species, or their sign were observed during the line transect survey (Table 2). No desert tortoises or their sign were observed during the field survey. No desert kit foxes or their sign were observed within the study area. No American badgers or their sign were observed within the study site. No Mohave ground squirrels were detected visually or audibly during the field survey. No burrowing owls were observed within the study area. California ground squirrel burrows were observed during the field survey. No bird nests were observed in the study area.

Vehicle tracks were observed within the study site. Dirt spoil piles were present throughout the eastern half of the study area. Broken concrete and other construction waste were observed throughout the eastern portion of the study site. The eastern portion of the study site had been completely graded in 2006, based on Google Earth historical aerial photography.

Discussion

It is probable that some annual species were not visible during the time the field survey was performed. Although not observed, several wildlife species would be expected to occur within the proposed project area (Table 3).

Human impacts to the area are expected to continue. Habitat in the general area will continue to become degraded and fragmented. Burrowing animals within the proposed project area are not expected to survive construction activities. More mobile species, such as lagomorphs (rabbits and hares), coyotes (*Canis latrans*), and birds are expected to survive construction activities. Development of this site will result in less cover and foraging opportunities for species occurring within and adjacent to the study area.

The desert tortoise is a state and federally listed threatened species. The proposed project area was located within the geographic range of the desert tortoise. The proposed project area was not located in critical habitat designated for the Mojave population of the desert tortoise. No desert tortoises are expected within the study area or adjacent areas. No minimization measures are recommended for desert tortoise.

Burrowing owls are considered a species of special concern by the CDFW. The first step in burrowing owl surveys is to accomplish a habitat assessment. A habitat assessment is intended to evaluate the likelihood that a site supports burrowing owls (CDFG 2012). The primary indicator of burrowing owl presence on a site is potential cover sites. Potential future burrowing owl cover sites were present within the study area.

Many species of birds and their active nests are protected under the Migratory Bird Treaty Act. Prairie falcons and other raptors may fly over the site but would not be expected to nest within the study area due to a lack of suitable nesting habitat. Migratory birds may potentially nest in the vegetation within the study site.

Table 2. List of wildlife species, or their sign, that were observed during the line transect survey of APN 3153-011-36 and 43, Lancaster, California.

Common Name	Scientific Name
Rodents	Order: Rodentia
California ground squirrel	*Citellus beecheyi*
Pocket gopher	*Thomomys bottae*
Desert cottontail	*Sylvilagus auduboni*
Black-tailed jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*
Domestic dog	*Canis familiaris*
Northern harrier	*Circus cyaneus*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Rock dove	*Columba livia*
Common raven	*Corvus corax*
Horned lark	*Eremophila alpestris*
Side blotched lizard	*Uta stansburiana*
Western whiptail	*Cnemidophorus tigris*
Bees	Order: Hymenoptera
Dragonfly	Order: Odonata
Harvester ants	Order: Hymenoptera
Trapdoor spider	Order: Araneida
Cabbage white butterfly	*Pieris rapae*
Fly	Order: Diptera
Grasshopper	Order: Orthoptera
Spider	Order: Araneida

Table 3. List of wildlife species that may occur within the study area, APN 3153-011-36 and 43, Lancaster, California.

Common Name	Scientific Name
Deer mouse	*Peromyscus maniculatus*
Kangaroo rat	*Dipodomys* sp.
Red-tailed hawk	*Buteo jamaicensis*
Say's phoebe	*Sayornis saya*
Northern mockingbird	*Mimus polyglottos*
Loggerhead shrike	*Lanius ludovicianus*
Western meadowlark	*Sturnella neglecta*
Song sparrow	Melospiza melodia
White crowned sparrow	*Zonotrichia leucophrys*
Gopher snake	*Pituophis melanoleucus*
Mojave rattlesnake	*Crotalus scutulatus*
Painted lady butterfly	*Vanessa cardui*
White lined sphinx moth	*Hyles lineata*
Wasp	Order: Hymenoptera
Darkling beetle	*Coelocnemis californicus*
Ladybird beetle	*Hippodamia convergens*
Ants, small, black	Order: Hymenoptera
Tarantula wasp	*Pepsis formosa*

The Mohave ground squirrel (MGS) is a state listed threatened species. The proposed project site was not located within the geographic range of the MGS. Forage for MGS appears to be limited within and around the study site. No winterfat (*Eurotia lanata*), or spiny hopsage (*Grayia spinosa*) were found on the study site. These two species are considered important forage for MGS. Dr. Leitner (2008) determined that combined densities of winterfat and spiny hopsage greater than 250 to 300 per ha (2.5 acres) are associated with occupancy of MGS. Dr. Leitner postulated based on trapping surveys in the southern portion of the MGS range that densities < 24/ha of spiny hopsage and < 100/ha of winterfat on a site was considered poor forage and may be related to the absence of MGS. Based on the lack of forage, high disturbance of the area, and located outside the geographic range; Mohave ground squirrels would not be expected to occur within this site. Further surveys or mitigation for Mohave ground squirrels are not considered necessary.

Alkali mariposa lily was observed within the study site. The study site and adjacent areas are highly disturbed, viable populations of this plant species are not expected. No suitable habitat for Barstow woolly sunflower or desert cymopterus was observed within the study site. Based on the results of the field survey these species are not expected to occur within the study area and no protection measures are recommended for Barstow wooly sunflower or desert cymopterus. No other state or federally listed species are expected to occur within the proposed project area (California Department of Fish and Wildlife 2015, Smith and Berg 1988, U.S. Fish & Wildlife Service 2016).

Landscape design should incorporate the use of native plants to the maximum extent feasible. Native plants that have food and cover value to wildlife should be used in landscape design (Adams and Dove 1989). Diversity of native plants should be maximized in landscape design (Adams and Dove 1989).

Recommended Protection Measures:

An area that has any of the following characteristics which will be impacted by development: distinct bed, bank, channel, signs of scouring, evidence of water flow, may require a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW) prior to development activities. Discussions with CDFW should be accomplished to determine whether a Streambed Alteration Agreement is required for the water features within the site. Mitigation for alkali mariposa lily, if required, may be combined with measures that may be required for water features in the area.

Consistent with the "Staff Report on Burrowing Owl Mitigation" a pre-construction burrowing owl survey will be accomplished within 14 days of construction activities (CDFG 2012). This survey will determine the level of protection measures needed during construction activities. Mitigation methods noted within the Staff Report will be applied as appropriate.

If possible, removal of vegetation will occur outside the nesting season for migratory birds. Nesting generally lasts from February to July but may extend beyond this time frame. If vegetation removal will occur during or close to the nesting season, a qualified biologist will survey all areas to be disturbed as close as possible but no more than one week prior to removal.

If active bird nests are found, impacts to nests will be avoided by either delaying work or establishing initial buffer areas of a minimum of 50 feet (16 m) around active migratory bird species nests and a minimum of 500 feet (161 m) around raptor nests. The project biologist will determine if the buffer areas should be increased or decreased based on the nesting bird response to disturbances.

Significance: Based on the condition of the habitat, and results of the survey, this project is not expected to result in a significant adverse impact to biological resources.

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